

REMARKS

Claims 1-3, 5-10, 12-14, 16-21 and 23 were rejected under 35 U.S.C. 102(e) on the grounds of anticipation by Nelson et al. 6,063,080. Claim 1 recites "a reinforcing tube attached to the heating catheter shaft, the heating catheter shaft extending through said reinforcing tube, and said reinforcing tube having a surface defining a plurality of apertures to provide variations in stiffness along the length of the heating catheter shaft." Claim 13 similarly recites "a reinforcing tube attached to the heating catheter shaft, the heating catheter shaft extending through said reinforcing tube, and said reinforcing tube having a surface defining a plurality of apertures extending in a direction between said proximal and distal ends of said heating catheter shaft."

Nelson et al. was cited as disclosing micro-apertures 84, shown in Fig. 4 and described at col. 7, lines 40-43 as micro-apertures in an electrode 18. The Examiner indicated that the electrode 18 corresponded to the recited reinforcing tube. The Examiner identified coaxial tubes 40, 52 and 54 as reinforcing tubes, and indicated that the hollow shaft 50 encloses the electrode 18. However, as is shown in Fig. 5 and described at col. 5 line 66 to col. 6 line 4 of Nelson et al., electrode 18 and hollow shaft 40 are comprised of the three tubes 50, 52 and 54 connected together end-to-end, so that the shaft 50 does not enclose electrode 18 as suggested by the Examiner.

Even if it could be argued that the electrode 18 which has the micro-apertures in some way reinforces the catheter 12, referring to Nelson et al. Fig. 1 and col. 2, lines 44-65, the catheter shaft 12 does not extend through the electrode 18. Claims 1 and 13 recite "the heating catheter shaft extending through said reinforcing tube."

Further, Nelson et al. fails to teach or disclose that the micro-apertures 84 provide variations in stiffness along the length of the heating catheter, as is recited in Claim 1. It is therefore respectfully submitted Claims 1-3, 5-10, 12-14, 16-21 and 23 are novel and inventive over Nelson et al., and that the rejection of Claims 1-3, 5-10, 12-14, 16-21 and 23 on the grounds of anticipation by Nelson et al. should be withdrawn.

Claims 4 and 15 were also rejected under 35 U.S.C. 103(a) on the grounds of obviousness from Nelson et al. in view of Mueller 4,801,297. The Examiner cited Mueller as teaching a catheter 10 having a plurality of axial slits and helical slits 28. Claims 4 and 15 recite apertures "formed as helical slits in the surface of the reinforcing tube." Referring to Fig. 1 and col. 1, lines 48-64, Mueller teaches providing slits 20 in a catheter 10, but does not teach providing slits in a reinforcing tube for the catheter. The Examiner indicated that in Mueller the side holes 20 on the catheter were helical slits, but in Fig. 1 of Mueller these side holes 28 are shown as rounded or oval apertures, and are not described or shown as helical slits.

According to Webster's New Collegiate Dictionary, 1980, "helical" is

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defined as "of, relating to, or having the form of a helix; broadly, SPIRAL." "Helix" is defined as "something spiral in form." It is therefore respectfully submitted that the rounded or oval apertures 28 of Nelson et al. are not helical slits, that Claims 4 and 15 are also novel and inventive over Nelson et al. and Mueller, and that the rejection of Claims 4 and 15 on the grounds of obviousness from Nelson et al. in view of Mueller should be withdrawn.

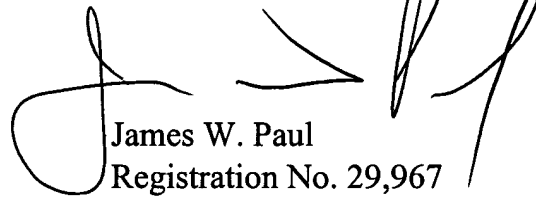
Claims 11 and 21 were rejected under 35 U.S.C. 103(a) on the grounds of obviousness from Nelson et al. in view of Nardella. It is respectfully submitted that Claim 11 depends from Claim 1, and that 21 depends from Claim 13, so that Claims 11 and 21 obtain patentable significance from Claims 1 and 13, respectively, and that the rejection of Claims 11 and 21 under 35 U.S.C. 103(a) on the grounds obviousness from Nelson et al. in view of Nardella should be withdrawn.

Applicant has reviewed the additional references cited but not applied, and it is believed that the additional references are no more pertinent than the references applied.

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In light of the foregoing, favorable reconsideration of the application is requested, and it is respectfully submitted that the application is in a condition for allowance. An early favorable action is respectfully solicited.

Respectfully submitted,
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